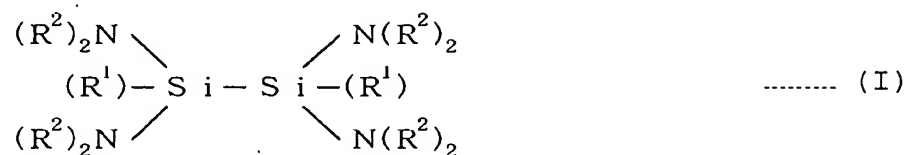


What is claimed is:

1. A method of forming a Si-containing thin film, which comprises a step of forming a film using an organic Si-containing compound having a Si-Si bond represented by the following formula (I):



wherein  $R^1$  represents a hydrogen or a methyl group, and  $R^2$  represents a methyl group, an ethyl group, a propyl group or a tertiary butyl group.

2. The method of forming a Si-containing thin film according to claim 1, wherein the film forming method is one of a chemical vapor deposition method and a liquid phase epitaxy method.

3. The method of forming a Si-containing thin film according to claim 2, wherein the chemical vapor deposition method is a thermal chemical vapor deposition method.

4. The method of forming a Si-containing thin film according to claim 1, wherein the Si-containing thin film formed is at least one selected from a  $Si_3N_4$  thin film, a  $SiO_2$  thin film, and a Hf-O-Si thin film.

5. The method of forming a Si-containing thin film according to claim 2, comprising steps of vaporizing the organic Si-containing compound, thermally decomposing the vaporized organic Si-containing compound and allowing the decomposed organic Si-containing compound to react with one of  $\text{NH}_3$  gas and  $\text{O}_2$  gas.

6. The method of forming a Si-containing thin film according to claim 2, comprising steps of vaporizing the organic Si-containing compound and an organic hafnium compound, thermally decomposing the vaporized organic Si-containing compound and the vaporized organic hafnium compound, and allowing the decomposed compounds to react with  $\text{O}_2$  gas.

7. The method of forming a Si-containing thin film according to claim 1, wherein the formed Si-containing thin film does not contain Cl.

8. The method of forming a Si-containing thin film according to claim 1, wherein forming the film is conducted at a temperature not greater than  $700^\circ\text{C}$ .

9. The method of forming a Si-containing thin film according to claim 1, wherein the film forming is performed in 5 minutes or less.

10. The method of forming a Si-containing thin film according to claim 1, wherein the thickness of the Si-containing thin film is 50 nm or less.